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AUTHOR Peters, Richard O.
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ABSTRACT

One of a series of pamphlets providing practical and useful sources of classroom techniques for social studies teachers, the concern of this issue is how to teach about human beings and the environment. A brief explanation of the nature and purpose of environmental education is presented, showing three interrelated concepts which comprise environmental study: culture and society, natural resources, and population. The second part of the document emphasizes the integration of environmental education into the K-12 social studies curriculum. Attention is focused on two general areas of environmental problems: (1) problems of the natural, physical environment involving aesthetic and physical qualities as well as the quantity of natural resources; and (2) problems of human-made environments. Ways in which environmental education programs can be structured at all grade levels are considered. Suggested teaching strategies for use in environmental education programs are presented in the third section, including field trips, graphic studies, nature walks, diaries and logs, field training, and time perspective studies. Sources and resources in a bibliographic format comprise the last part of the document. Articles, publications, films, filmstrips, student materials (games), bibliographies, and ecology-oriented organizations and projects are topic organizers of the bibliography. (Author/JR)

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How To Do It Series

No. 28

Co-Editors

Lynn Cherryholmes
Cornell Elementary School
Okemos Michigan Public Schools

H. Michael Hartoo
Social Studies Specia
Wisconsin Department of Publ

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How To Teach About Human Beings and Their Environment

Richard O. Peters
Director of Experimental Schools Program
New Hampshire Supervisory Union 58

Human beings are but one creation in the totality of nature. Their significance in the scheme of things is largely dependent upon their abilities to adapt and to develop intellectually and physically as well as to wisely manipulate and utilize their natural and social surroundings. Human beings belong to a community of living things in which each and every form of life is constantly dependent upon other forms of life for daily existence. Plants and animals, including humans, reproduce, feed, and develop when associated with other plants, animals, and environmental influences. This interdependence and interaction is called an "organic community" and is often referred to as an ecosystem. The destruction of certain elements comprising this interdependent ecosystem has an effect on the remaining organic components, and this effect is frequently negative.

As human beings have developed highly technical societies, they have devised tools and techniques by which they can alter the natural ecosystems, change the course of rivers, and clear and reclaim the land. It is only recently that they have begun to realize that their actions have led to pollution of the air that we breathe and the water that we drink, the destruction of natural geographical phenomena, and the uncontrolled increase in human population.

Human beings have begun to realize that they cannot survive on the face of the Earth alone! They are biologically and socially dependent upon other forms of life for substance and existence. Thus, our concern must not be limited to the human species; rather, we must give serious attention to the countless thousands of other forms of plant and animal life that directly and indirectly affect the quality of human life.

I. Environmental Education

Environmental education may be defined as the process whereby students are directly and vicariously exposed to and interact with natural and social life-space phenomena which directly and indirectly affect and influence their daily lives as members of an ecological community.

Environmental education is comprised of three interrelated concepts: culture and society, natural resources, and population.

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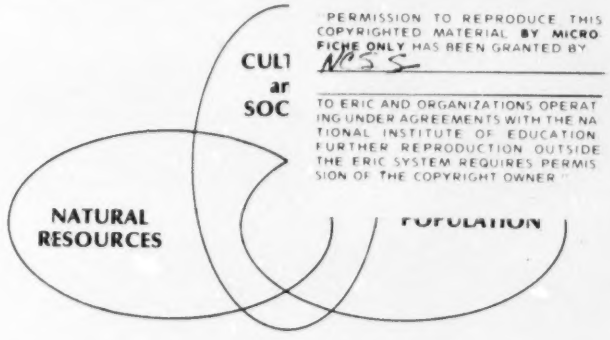

A. Culture and Society. Human beings are basically social animals, the creation and product of their cultural and social surroundings. In many instances, folkways, mores, and statutory laws have suppressed innate abilities and drives. Thus, the individual conforms to dictates of the group, fulfilling certain functions and exercising socially acceptable roles.

As cultures and societies increase in functions and size, there is a tendency for impersonal relationships to result. Functions and services become highly specialized and the day-to-day behavior and personality of the individual are segmented. Gradually, the individual loses a degree of "self" identity and develops the concept of "other." This conceptual framework results in both a psychological and a physical dependency and reliance upon perceived and non-perceived others.

The totality of a given culture and society greatly affects and influences the individual's decision-making process as well as his or her relationships with human and non-human elements of the ecological community.

B. Natural Resources. In their incessant haste to mold the physical structure of the Earth, human beings have

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repeatedly violated the sanctity of nature. Geographical forms and characteristics (e.g., mountains, forests, and rivers) have been altered and remolded, the air and water we consume have been polluted, essential organic elements in the chain-of-life have been destroyed, and the natural riches of the land have been greatly depleted.

Greater attention and concern must be given to the essential natural resources: (1) air, (2) minerals, (3) plant and animal life, (4) soil, and (5) water.

Earth's resources are generally finite. Most of them cannot be replaced or produced even with advanced technology. Once a plant or animal species becomes extinct or the supply of a specific mineral is exhausted—it is gone forever! Therefore, human beings must realize their responsibility to manage wisely the quantities of resources used and to protect the quality of remaining resources.

C. Population. Population growth and distribution over the surface of the Earth is a serious world-wide social problem. The concentration and growth of human numbers in a particular geographical region affect the quantity and quality of food and water supplies as well as employment opportunities, economic welfare, and shelter. When we begin to understand how population growth and density affect economic, environmental, and social conditions, human beings can deal more effectively with these problems.

Population education is an organized attempt to create a deep personal perception of the consequences of demographic changes; it is an attempt to develop (1) awareness of the individual, family, social, and environmental effects of the explosive world-wide increase in human population, (2) an understanding of the environmental effects of rapid shifts in the concentration and distribution of people, and (3) sensitivity to ways of affecting attitudes and values about the relationship of humans to other community life-space phenomena and of increasing respect for all living things.

According to Noel-David Burleson, an internationally acclaimed expert in population research, "education can become an agent of change (regarding attitudes and knowledge about population dynamics) by developing population awareness among teachers and students. Population awareness is the key concept with which we must deal in presenting our knowledge and concern about population problems. Educators and students should have a factual knowledge of population dynamics in order to understand the nature and magnitude of the burdens the population explosion imposes. Teachers and students should consider a variety of attitudes against which and with which they can measure their own attitudes."[1]

II. Integrating Environmental Education into the K-12 Social Studies Curriculum

Environmental education programs should attempt to develop and affect the individual's attitudes about and concern for the state of the environment. This task can be accomplished by focusing attention on those problems which directly affect both the quality and role of human beings' environment in the totality of an ecological community. Environmental education programs which focus on student attitudes toward the environment with an emphasis on outdoor activities, utilizing natural and social community environments as learning laboratories, are probably more effective than most programs. Attention should be given to two general areas of environmental problems:

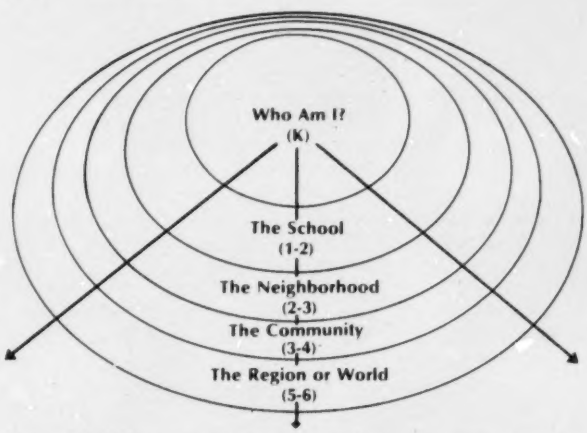
A. Problems of the natural, physical environment involving aesthetic and physical qualities as well as the quantity of natural resources:
   1. air pollution
   2. mining of natural resources
   3. open space for recreation and wildlife
   4. plant and wildlife disease
   5. water pollution

B. Problems of human-made environments:
   1. air pollution
   2. noise pollution
   3. water pollution
   4. population growth and distribution
   5. community services
   6. traffic congestion
   7. litter and solid waste disposal

Through study of these problems, students should develop an understanding of:

a. the environment
b. humans' relationship to the environment
c. environmental problems
d. ways to solve or prevent problems
e. large population and human concentrations in urban centers
f. pressures created by an advanced way-of-life, characterized by affluence, leisure time, good health and medical care, increased longevity, mobility, and advanced technology.
g. lack of social organizations and controls over individuals and groups who violate the sanctity of the environment

Many elementary schools use an expanding horizons approach as illustrated below:



This approach is basically one of environmental settings and provides a natural framework for introducing and developing environmental understandings from grade to grade.

There are a number of excellent K-6 environmental education programs which are easily integrated into the elementary social studies curriculum. They focus on the development of student attitudes, knowledge, and values about the nature and character of interrelated environmental settings and the individual's relationships to each. Examples of these programs are the Boise, Idaho, Environmental Education Project; the University of Delaware's Population Curriculum Study; and South Carolina's Conservation Curriculum Improvement Project.

[1]Noel-David Burleson, *Population Awareness in Secondary Education*, 1968, pp 1-2. Used with permission of the author.

In grades 7-12, the environmental education program can be effectively integrated into the existing curricula or offered as special elective courses. The most effective approach builds upon students' experiences with their environment and produces socially oriented students who possess genuine concerns for the quality of human beings' relationships with and effects upon nature, social settings, and other human beings. With the exception of the Boise Project, the programs mentioned also have units for grades 7-12. Other resource materials are listed in the bibliography.

The environmental education program at all grade levels can be structured in a variety of ways:

- Separate, special units-of-study that are strategically placed throughout a course-of-study for purposes of enriching the course offering.
- An integral part of the total course-of-study; a theme that pervades each and every segment of a specified course.
- Regional studies; geographic areas may provide the nucleus for the study of environments. The region(s) may be of a local, intermediate, or distant nature and may encompass a diversity of natural and human-made phenomena.

In addition, the inclusion of mini-courses in elementary grades and elective courses in the secondary school curriculum allow for:

- Mini-courses of eight to ten weeks duration that deal with topics such as water pollution, air and noise pollution, depletion of the natural resources, and urban development and decay. These mini-courses provide students with the opportunity for in-depth investigations of their choosing.
- Release time projects that provide individual students and small inquiry groups with the opportunity to conduct community-oriented outdoor education research projects.
- Multi-disciplinary course offerings involving two or more academic areas (e.g., science and social studies) which collaborate on the development of biologically and sociologically oriented environmental education sources.

Course content and learning activities can be incorporated into a variety of instructional patterns:

Chronology: A step-by-step approach to the ever-unfolding story of the growth and development of human beings. This event-by-event approach is essential for data acquisition and for the internalization of the historical perspective in the mind of the learner.

Themes: General areas-of-inquiry (e.g., *The Story of a Lake, Human Beings and Technology*) can form the basis for course development. Using a theme as an organizational focus, the classroom teacher can incorporate segments of several social science disciplines into a course of study.

Concepts: Interdependence, pollution, and environment are examples of concepts which can form the basis of a course. The concept is the organizational point around which information, skills, and learning processes can form the content and structure of student learning.

Skills: Each social studies discipline is endowed with a particularly unique vocabulary and method of inquiry. It is essential that the individual student develop several skills which will enable him or her to participate actively in both the classroom and outdoor social studies process.

III. Suggested Teaching Strategies

In addition to normal classroom activities and resources such as books, films, games, and case studies, direct experiences are very important to the development of environmental understandings. Examples of such experiences include:

A. Field Trips: the process of exposing students to and allowing them to interact with natural and human-made community facilities and resources. This activity involves pre-trip planning and post-trip follow-up as well as evaluation of the activity.

B. Graphic Studies: students conduct environmental studies utilizing still cameras, slide cameras, super 8 and/or 16mm motion picture cameras, video tape equipment, and/or cassette recorders to collect data and develop study reports.

C. Nature Walks: students are introduced to selected environmental phenomena on a daytime walk or on short field trips.

D. Diaries and Logs: students keep records of classroom and field experiences related to environmental studies. These accounts of personal activity can be compiled into bound documents and/or recorded on audio tape.

E. Field Training: students enrolled in special courses are released from school during the typical day in order to work actively with local and/or regional environmental agencies, groups, or projects for purposes of gaining first-hand experience and on-the-job training.

F. Classroom Activities: there are several direct student experiences and activities that can be undertaken. For example:

1. Planting of classroom windowbox and outdoor gardens.
2. Construction of bird houses, feeding stations, and wildlife shelters.
3. Care of small domestic pets and wildlife.

G. Geographic Studies: students are involved in the study of the characteristics of map types. They learn how to read map scales and symbols as well as to work with compasses. Students then use mapping techniques in the field to describe selected geographical areas.

H. Camping Trips: students are taken out into the natural environment and experience the process involved in hiking into an area, selecting a campsite, setting up and maintaining a campsite, as well as preserving the natural character of the area.

I. Time Perspective Studies: students are involved in anthropological and geological studies of selected environmental areas. Students study the geology of the area, examine the rings of tree stump cuts, investigate the flora of the area, and in other ways analyze regional topography.

J. Field Studies: while most environmental education programs utilize a wide variety of natural and human-made environments as learning centers, a concerted effort should be made to identify and develop a physical site area as a learning laboratory. The site area can be used by students to study seasonal effects on a sample area, to investigate the wildlife of the area, and to study the flora and natural habitats of the selected region.

There are several program advantages to having a learning laboratory facility.

1. A permanent activity-oriented program can be established and made an integral part of an environmental education curriculum.
2. Student exposure to and direct involvement with aspects of the natural environment can be controlled and incorporated into the learning process.
3. A variety of learning and leisure-time experiences can be made available to students in a natural environmental setting.
4. The facility can double as a teacher in-service environmental education training center.

The selected natural site area should be developed so that both the structure and phenomena of the area lend themselves to the discovery/learning process wherein students can:

a. Conduct nature studies (e.g., hibernation, soil erosion, geology, food sources).
b. Become involved in outdoor-oriented hiking trips and camping activities.
c. Involve themselves in ecological research projects (e.g., air and water pollution, seasonal undergrowth, effects of snowmobiles on shrub/tree growth).

In order to properly establish a site and to identify the value of area phenomena to the development of the learning process, there is a need to conduct a site survey which includes:

a. Establishing the physical boundaries of the site and marking the boundaries with highly visible signs.
b. Locating the site area on a topographic map and outlining the boundaries.
c. Recording, on paper, tape, and/or film the characteristics of the site area.
d. Identifying site stations (e.g., bog area, nature trails, grasslands, brooks) for student use.

K. Projects: a wide variety of individual learner, small group, and/or large group activities that require each participant to become directly involved in the completion of some aspect of a project. Possible examples include:

1. Table-top dramas of environmental pollution, lumbering processes, mining operations, etc.
2. Comparisons of income levels and standards of living of socio-economic groups within a given community.
3. Picture essays of existing types of environmental pollution within a given geographical region.
4. Surveys of farmers in a region to determine their opinions about the use of pesticides.

When incorporating environmental education into a social studies curriculum, teachers should give constant attention to learning experiences and instructional strategies which will affect desired behavioral outcomes in students.

The process of student inquiry should lead the learner from:

- Awareness and observation of an environmental setting toward an analysis of problems and perception(s) of relationships between phenomena.
- Understanding(s) of relationship between phenomena toward value(s) clarification.
- Value(s) clarification toward a commitment which will result in positive action.

Only when students begin to develop a sense of social responsibility for their environment will we begin to solve our many environmental problems.

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The Population Council, 245 Park Avenue, New York, New York 10017.

The Population Institute, 100 Maryland Avenue, N.E., Washington, D.C. 20002.

The Population Reference Bureau, Inc., 1755 Massachusetts Avenue, N.W., Washington, D.C. 20036.

The Wilderness Society, 729 - 15th Street, N.W., Washington, D.C. 20005.

Wildlife Management Institute, 709 Wire Building, Washington, D.C. 20005.

ZERO Population Growth, 367 State Street, Los Altos, California 94022.

NOTE: This *How To Do It* notebook series, designed for a loose-leaf binder, provides a practical and useful source of classroom techniques for social studies teachers. Elementary and secondary teachers alike will find these pamphlets helpful. The titles now available in this series are: *How To Use a Motion Picture, How To Use a Textbook, How To Use Local History, How To Use a Bulletin Board, How To Use Daily Newspapers, How To Use Group Discussion, How To Use Recordings, How To Use Oral Reports, How To Locate Useful Government Publications, How To Conduct a Field Trip, How To Utilize Community Resources, How To Handle Controversial Issues, How To Introduce Maps and Globes, How To Use Multiple Books, How To Plan for Student Teaching, How To Study a Class, How To Use Sociodrama, How To Work with the Academically Talented in the Social Studies, How To Develop Time and Chronological Concepts, How To Teach Library Research Skills in Secondary School Social Studies, How To Ask Questions, How To Use Folk Songs, How To Use Simulations, How To Study Political Participation,* and *How To Teach About Human Beings and Their Environment.*